UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,566	09/26/2003	Osamu Kanome	01272.020632	2327

5514 7590 12/15/2004

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER	
FERGUSON, MARISSA L	
ART UNIT	PAPER NUMBER
2854	

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/670,566	KANOME ET AL.	
	Examiner	Art Unit	
	Marissa L Ferguson	2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 September 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

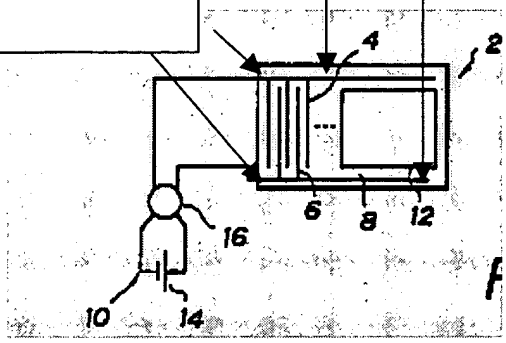
Claim 22 is rejected under 35 U.S.C. 102(b) as being anticipated by Kasahara (US 4,864,461).

Kasahara teaches an insulating layer (22), a plurality of electrodes arranged alternately with positive and negative with respect to an insulating layer (4,6 and Figure 2) and a plurality of feeding terminals each of the feeding terminals connected with each of the electrodes and disposed on the side of one of longitudinal edges of a belt, wherein feeding terminals for feeding positive voltage exposed outside of the side of one of a surface or a back of a belt and feeding terminals for feeding negative voltage extending towards the other of a surface or a back of a belt (Column 6, Lines 46-57 and Figures 1,3,4).

(Please refer to figure 1 below for further clarification)

In figure 1, the feeding terminals (power source 14) are disposed on the side of a longitudinal edge of belt (denoted by arrows) wherein the feeding terminals are exposed outside of the side of one of a surface (denoted by arrows).

Arrows denotes terminals extending towards the back of belt.



Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1,3,5,11-13,25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashara (US 4,864,461) in view of Miyaguchi et al. (US Patent 6,708,014) and Kasahara (US 5,202,179).

Kashara teaches a base layer (20), an insulating layer on a base layer (element 22 and Figure 2), a plurality of electrodes arranged alternately with positive and negative with respect to said insulating layer (4,6 and Figure 2), a resin ingredient (26), a plurality of absorption layers (8,12-1,12-2) and a plurality of absorption layers including a first absorption layer directly disposed on said plurality of electrodes and a

second absorption layer disposed above first absorption layer (Figures 2,7 and 8). However, he does not explicitly disclose a plurality of electrodes embedded in an insulating layer and at least two of absorption layers having different volume resistivities, a second absorption layer having a volume resistivity Ra2 smaller than a volume resistivity Ral of said first absorption layer, a volume resistivity of a resin which is a main ingredient of said second absorption layer before a control of resistance being 1.0×10^{16} $\Omega \cdot$cm or less.

Miyaguchi et al. teaches a surface-protecting layer covering a surface of electrodes (Column 5, Lines 48-55). Kasahara ('179) teaches layers with resisitvites and discloses that the resisitivity (which is inversely proportional to conductivity) of the thermoplastic material of the film of the electrodes is dependent on the amount of conductive additive added to the thermoplastic material, and that the concentration or content of the conductive additive may be varied depending on the desired end product (Column 2, lines 63-68). However, fails a second absorption layer having a volume resistivity Ra2 smaller than a volume resistivity Ral of said first absorption layer, a volume resistivity of a resin which is a main ingredient of said second absorption layer before a control of resistance being 1.0×10^{16} $\Omega \cdot$cm.

However, it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the concentration or content of the conductive additive required to achieve the optimal

resistivity of the thermoplastic material depending on the particular desired end result via routine experimentation.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention taught by Kasahara ('461) to include an embedded layer as taught by Miyaguchi et al., since Miyaguchi et al. teaches that it is advantageous to provide an insulating layer for projecting electrodes in order to achieve a stable transportation and to include the volume resistivities as taught by Kashara ('179), since Kashara ('179) provides a desirable and stable level of conductance.

3. Claims 2,4,6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashara (US 4,864,461) in view of Miyaguchi et al. (US Patent 6,708,014), Kasahara (US 5,202,179), and further in view of Takeuchi et al (US Patent 6,312,5430).

Kashara ('461) teaches a base layer (20), an insulating layer on a base layer (22 and Figure 22), a plurality of electrodes arranged alternately with positive and negative with respect to an insulating layer (4,6 and Figure 2), a resin ingredient (26), a plurality of absorption layers (8,12-1 ,12-2) and a plurality of absorption layers including a first absorption layer directly disposed on said plurality of electrodes and a second absorption layer disposed above first absorption layer (Figures 2,7 and 8). However, he does not explicitly disclose a plurality of electrodes embedded in an insulating layer and at least two of absorption layers having different volume resistivities, wherein a second absorption layer has a volume resistivity Ra2 smaller than a volume resistivity Ral of a

first absorption layer, a volume resistivity of a resin which is a main ingredient of a second absorption layer before a control of resistance being 1 .0 x 10^{16} Ω·cm or less, a fluoride resin outer layer and a means for transferring an image.

Miyaguchi et al. teaches a plurality of electrodes embedded in an insulation layer (Column 5, Lines 48-55). However, Miyaguchi et al. does not teach at least two of absorption layers having different volume resistivities, wherein a second absorption layer has a volume resistivity Ra2 smaller than a volume resistivity Ral of a first absorption layer, a volume resistivity of a resin which is a main ingredient of a second absorption layer before a control of resistance being 1.0 x 10^{16} Ω·cm or less, a fluoride resin outer layer and a means for transferring an image. Kasahara ('179) teaches layers with resisitvites and discloses that the resisitivity (which is inversely proportional to conductivity) of the film of the electrodes is dependent on the amount of conductive additive added to a thermoplastic material, and that the concentration or content of the conductive additive may be varied depending on the desired end product (col. 2, lines 63-68). However, he does not explicitly disclose a layer of fluoride resin. Takeuchi et al. teaches an outer layer of resin (Column 3, Lines 16-20) with fluororesin (Column 4, Lines 20-30 and Column 6, Lines 63-67) and a means for transferring a print medium (Column 2, Lines 24-35).

However, he does not disclose a second absorption layer having a volume resistivity Ra2 smaller than a volume resistivity Ral of a first absorption layer, a volume resistivity of a resin which is a main ingredient of a second absorption layer before a control of resistance being 1.0 x 10^{16} Ω·cm or less.

However, it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the concentration or content of the conductive additive required to achieve the optimal resistivity of the thermoplastic material depending on the particular desired end result via routine experimentation.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention taught by Kasahara ('461) to include the embedded electrodes of Miyaguchi et al., since Miyaguchi et al. teaches that it is advantageous to provide an insulating layer for projecting electrodes in order to achieve a stable transportation and to include volume resistivities as taught by Kashara ('179), since Kashara ('179) provides a desirable and stable level of conductance and to further modify Kasaharat('461) to include an outer fluoride resin layer and transferring an image as taught by Takeuchi et al., since Takeuchi et al. provides the layer in order to assist in the strengthening of bonding layers and to improve physical characteristics of a image.

4. Claims 7-10,15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi et al. (US Patent 6,312,5430) in view of Miyaguchi et al. (US Patent 6,708,014) and Kasahara (US 5,202,179).

Takeuchi et al. teaches winding a base layer sheet on a core member so

that the both ends of said base layer sheet overlap with each other ,winding an insulating layer sheet on said base layer sheet, said insulating layer sheet having a plurality of openings ,winding a first sheet for an absorption layer on said insulating layer sheet so that the both ends of said first sheet overlap with each other , winding a second sheet for said absorption layer on said first sheet so that the both ends of said second sheet overlap with each other (Abstract, Columns 3,4 and reference made throughout patent), covering a circumferential surface of said second sheet with a cylindrical member (Figure 4 and reference made throughout patent) and thermally joining adjacent sheets and said overlapped portions (Column 2, Lines 17-23 and reference made throughout prior art). However, he does not explicitly disclose disposing a plurality of electrodes embedded in an insulating layer and an electrode sheet and a second sheet having a volume resistivity Ra2 smaller than a volume resistivity Ral of said first sheet, a volume resistivity of a resin which is a main ingredient of a second sheet before a control of resistance being 1.0×10^{16} Ω ·cm or less.

Miyaguchi et al. teaches a plurality of electrodes embedded in an insulation layer (Column 5, Lines 48-55). Kasahara teaches an electrostatic device with an electrode sheet (Column 4, Lines 19-36) and a resisitivity (which is inversely proportional to conductivity) of the thermoplastic material of the film of the electrodes is dependent on the amount of conductive additive added to the thermoplastic material, and that the concentration or content of the conductive additive may be varied depending on the desired end product (Col. 2, lines 63-68). Kasahara does not disclose a second absorption layer having a volume resistivity Ra2 smaller than a volume resistivity Ral of

said first absorption layer, a volume resistivity of a resin which is a main ingredient of a second absorption layer before a control of resistance being 1.0×10^{16} Ω·cm or less.

However, it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the concentration or content of the conductive additive required to achieve the optimal resistivity of the thermoplastic material depending on the particular desired end result via routine experimentation.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention taught by Takeuchi et al. to include the plurality of electrodes embedded as taught by Miyaguchi et al., since Miyaguchi teaches that it is advantageous to provide an insulating layer for projecting electrodes in order to achieve a stable transportation and to include the electrodes and volume resistivities as taught by Kashara ('179), since Kashara ('179) provides a desirable and stable level of conductance between the electrodes.

5. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kashara (US 4,864,461) in view of Takeuchi et al. (US Patent 6,312,5430).

Kashara teaches the invention claimed, however he does not explicitly disclose a means for transferring a print medium. Takeuchi et al. discloses a means for transferring a print medium (Column 2, Lines 24-35). It would have been obvious at the

time the invention was made to a person having ordinary skill in the art to modify the invention taught by Kasahara (.461) to include transferring an image as taught by Takeuchi et al., since Takeuchi et al. teaches transferring an image in order to improve physical characteristics of a image.

6. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi et al. (US Patent 6,312,5430) in view of Kasahara (US 5,202,179) and Miyaguchi et al. (US 6,708,014)

Takeuchi et al. teaches winding a base layer sheet on a core member so that the both ends of said base layer sheet overlap with each other ,winding an insulating layer sheet on said base layer sheet, said insulating layer sheet having a plurality of openings ,winding a first sheet for an absorption layer on said insulating layer sheet so that the both ends of said first sheet overlap with each other , winding a second sheet for said absorption layer on said first sheet so that the both ends of said second sheet overlap with each other (Abstract, Columns 3,4 and reference made throughout patent), covering a circumferential surface of said second sheet with a cylindrical member (Figure 4 and reference made throughout patent) and thermally joining adjacent sheets and said overlapped portions (Column 2, Lines 17-23 and reference made throughout prior ad). However, he does not explicitly disclose disposing an electrode sheet and a second sheet having a volume resistivity Ra2 smaller than a volume resistivity Ral of said first sheet, a volume resistivity of a resin which is a main ingredient of said second sheet before a control of resistance being 1.0

x 10^{16} Ω·cm or less and a lamination method.

Kasahara teaches an electrostatic device with an electrode sheet (Column 4, Lines 19-36) and a resisitivity (which is inversely proportional to conductivity) of the thermoplastic material of the film of the electrodes is dependent on the amount of conductive additive added to the thermoplastic material, and that the concentration or content of the conductive additive may be varied depending on the desired end product (Col. 2, lines 63-68). Miyaguchi et al. teaches laminating a layer (Column 11, Lines 44-54) on a base. Kasahara does not disclose a second absorption layer having a volume resistivity Ra2 smaller than a volume resistivity Ral of said first absorption layer, a volume resistivity of a resin which is a main ingredient of a second absorption layer before a control of resistance being 1.0 x 10^{16} Ω·cm or less. Kashara does not teach a lamination method.

However, it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). It would have been obvious to one of ordinary skill in the ad at the time the invention was made to have determined the concentration or content of the conductive additive required to achieve the optimal resistivity of the thermoplastic material depending on the particular desired end result via routine experimentation.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention taught by Takeuchi et al. to include the electrodes and volume resistivities as taught by Kashara ('179), since Kashara

('179) provides a desirable and stable level of conductance between the electrodes and to further modify Takeuchi et al. to include a lamination layer as taught by Miyaguchi et al., since Miyaguchi et al. teaches using a laminate to efficiently bond a film to a base layer.

Response to Arguments

7. Applicant's arguments with respect to claims 1-21 and 23-26 have been considered but are moot in view of the new ground(s) of rejection.

8. Applicant's arguments filed 9/28/04 have been fully considered but they are not persuasive. In response to applicant's remarks regarding claim 22, the examiner consider the amended features of the claim, however the action remains rejected over Kasahara '461. The terminals from power source (14) are exposed outside on the side of one of surface or of a back side of a belt (please refer to rejection of claim 22 in disclosed office action).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marissa L Ferguson whose telephone number is (571) 272-2163. The examiner can normally be reached on (M-T) 6:30am-4:00pm and every other (F) 7:30am-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marissa L Ferguson
Examiner
Art Unit 2854

MLF

ANDREW H. HIRSHFELD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800